

EXHIBIT E-3 VERTICAL PLAN SKETCH

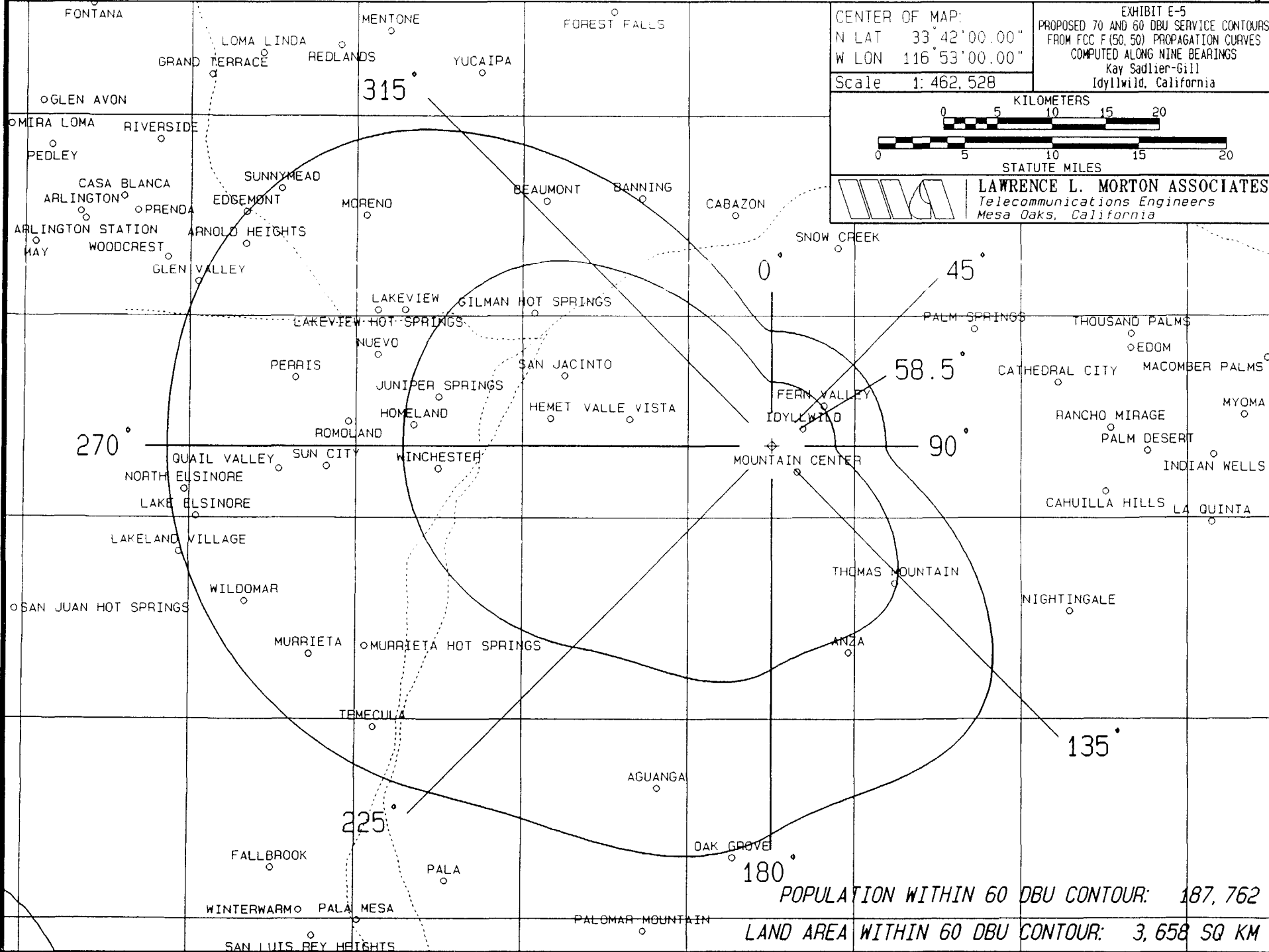
PROJECT:	RADIO STATION KATY-FM	DATE:	03-JUN-91
SCALE:	None	REVISION:	A
		SHEET:	1 of 1



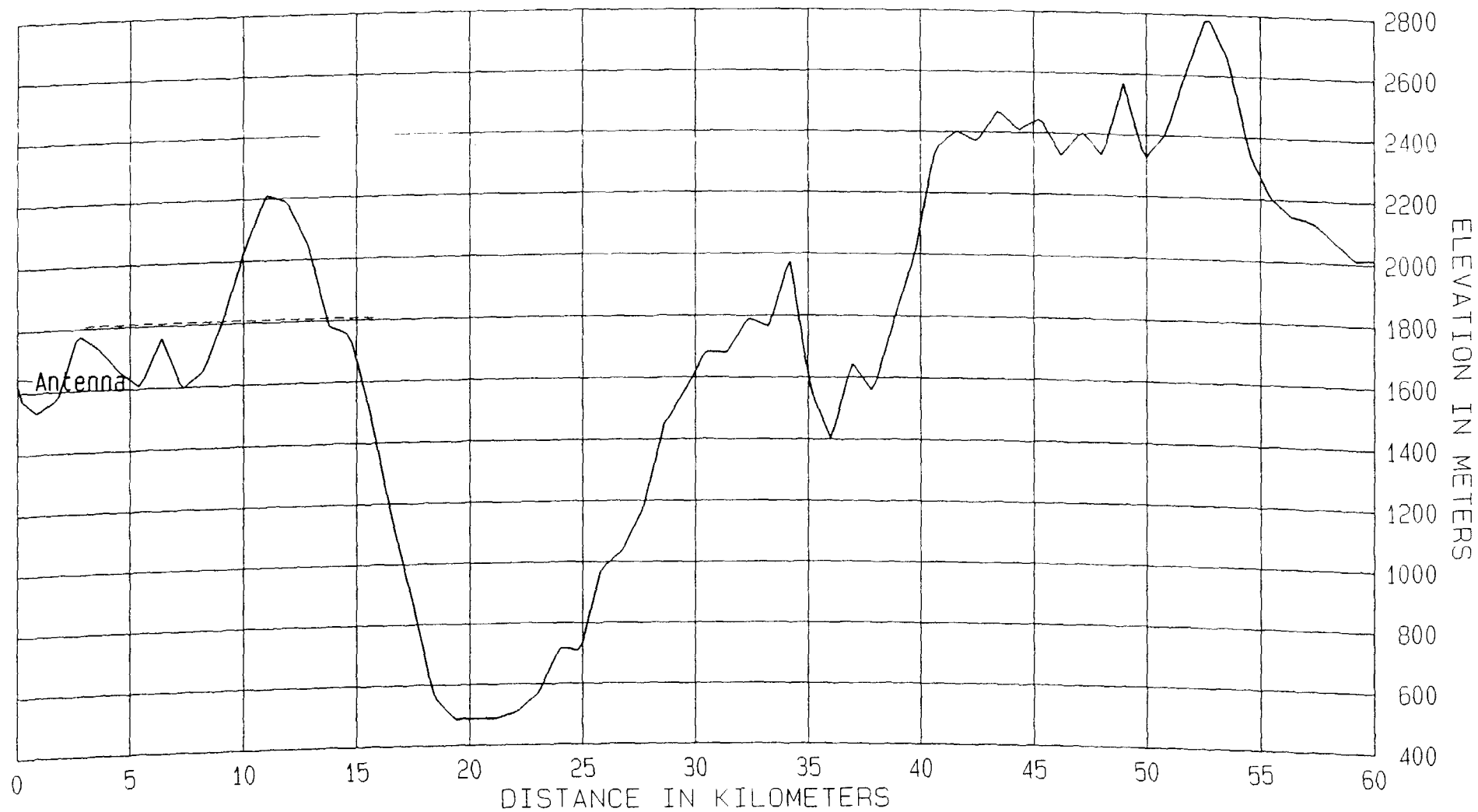
LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Lambert Azimuthal Equal-Area

10'00" Graticule Spacing



Average Radial Elevation = 1808.26 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



N 0.0° E Radial

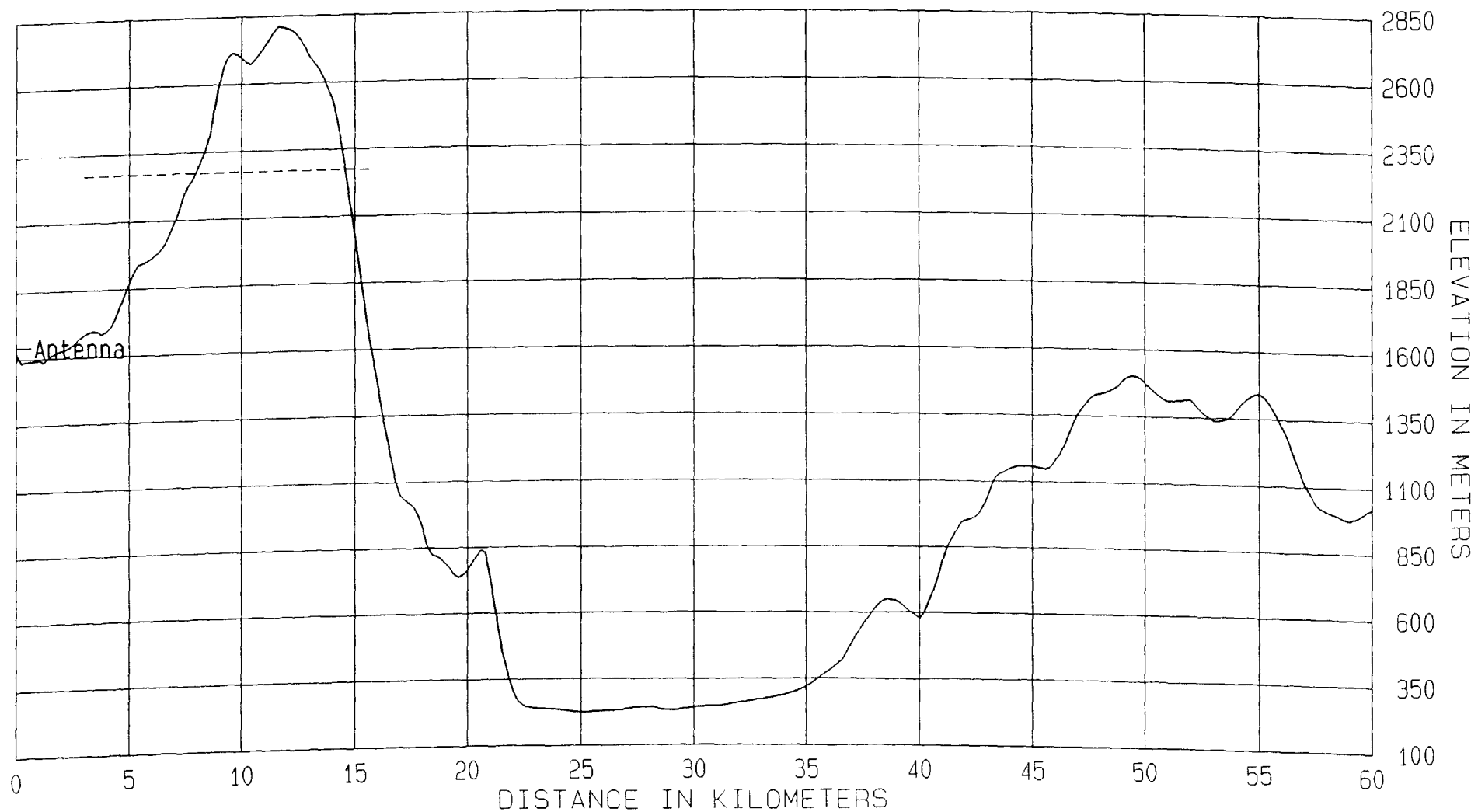
KAY SADLIER-GILL

EXHIBIT E-6A



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 2273.16 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



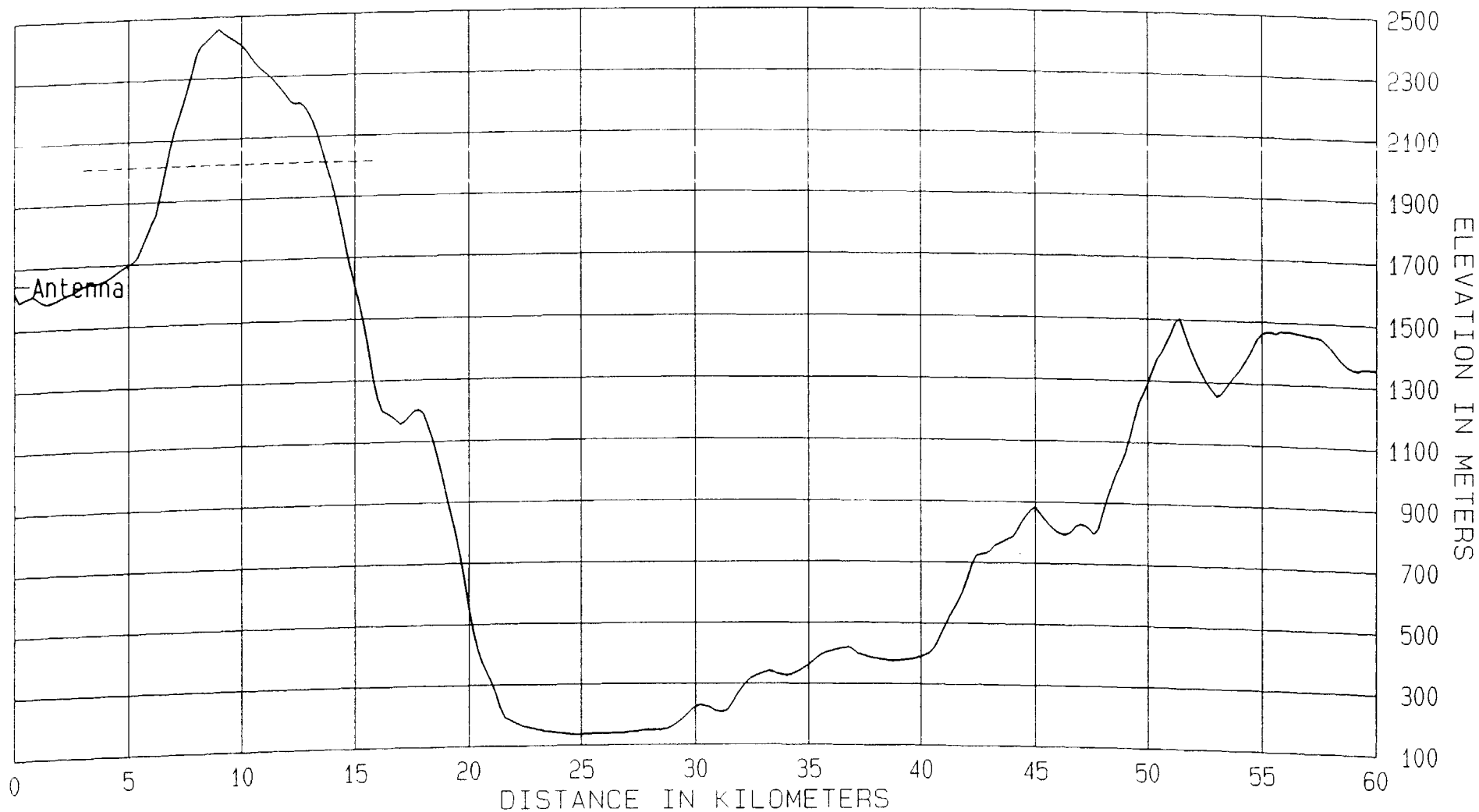
N 45.0° E Radial
KAY SADLER-GILL

EXHIBIT E-6B



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 2014.53 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



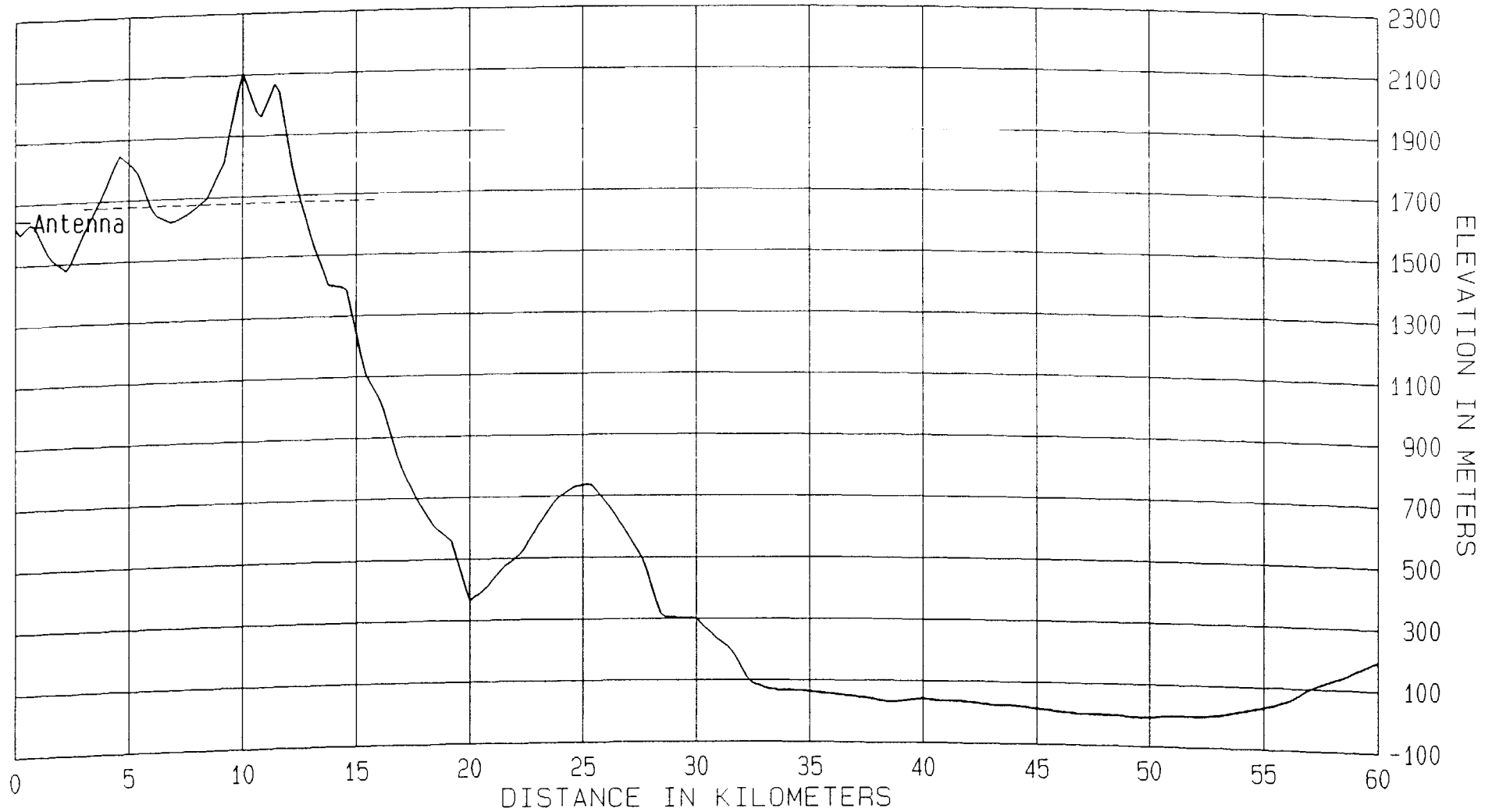
N 58.5° E Radial
KAY SADLER-GILL

EXHIBIT E-6C



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 1677.90 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



N 90.0° E Radial

EXHIBIT E-6D

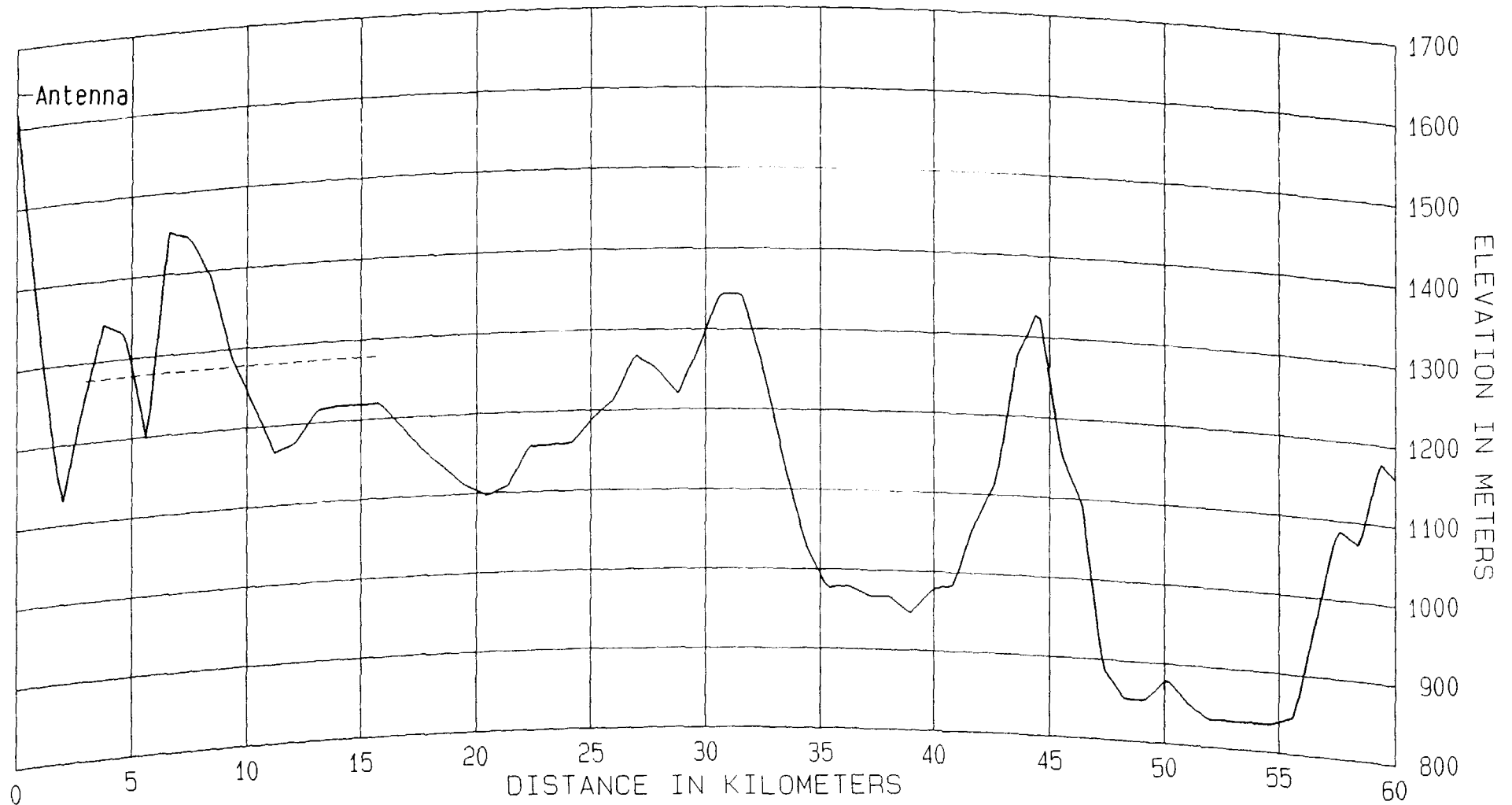


LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers

Average Radial Elevation = 1404.51 Meters AMSL

Antenna Radiation Center = 1544.40 Meters AMSL

Average Radial Elevation = 1278.08 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



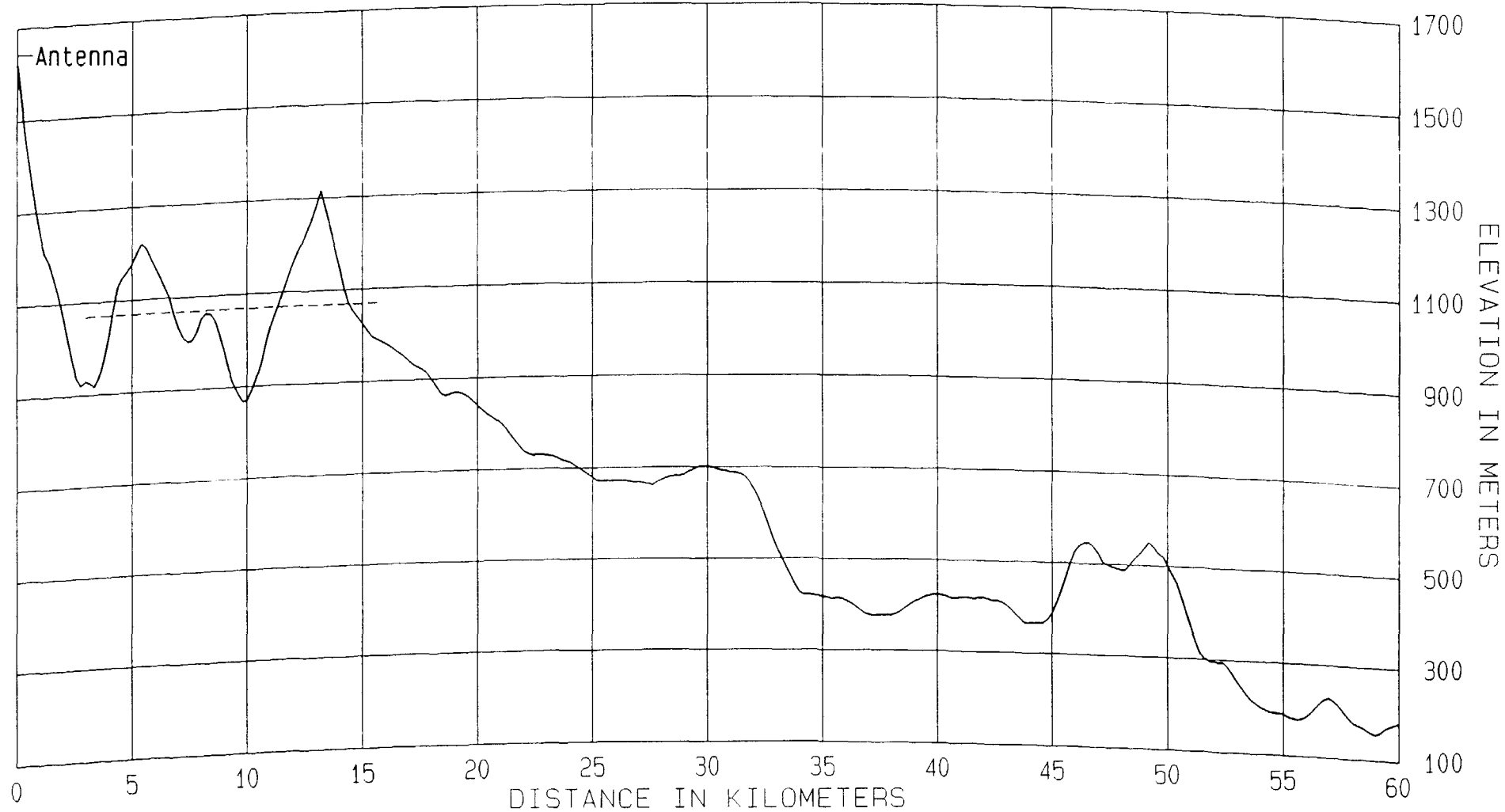
N 180.0° E Radial
KAY SADLER-GILL

EXHIBIT E-6F



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 1068.86 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



N 225.0° E Radial

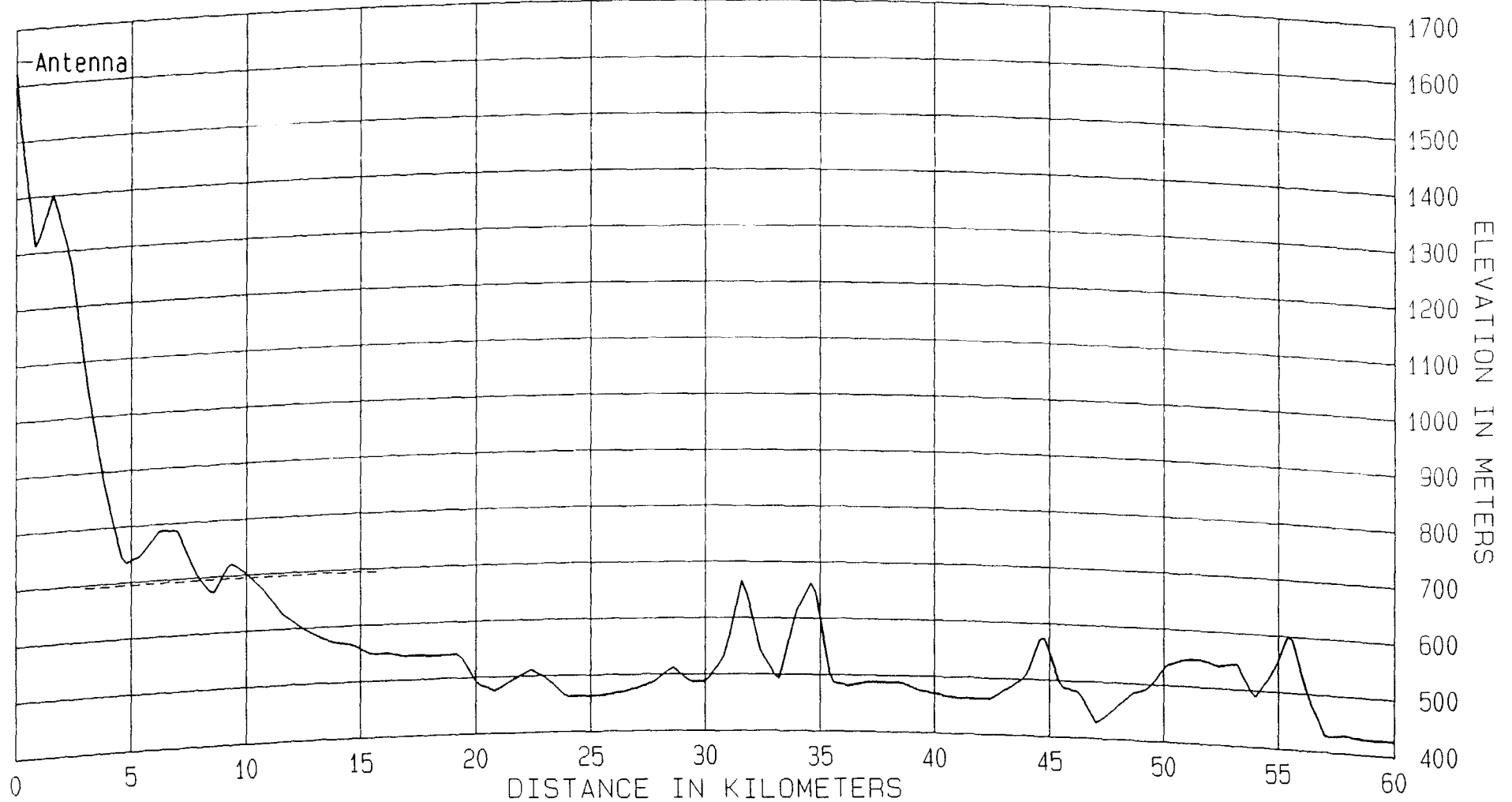
KAY SADLER-GILL

EXHIBIT E-6G



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 694.91 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



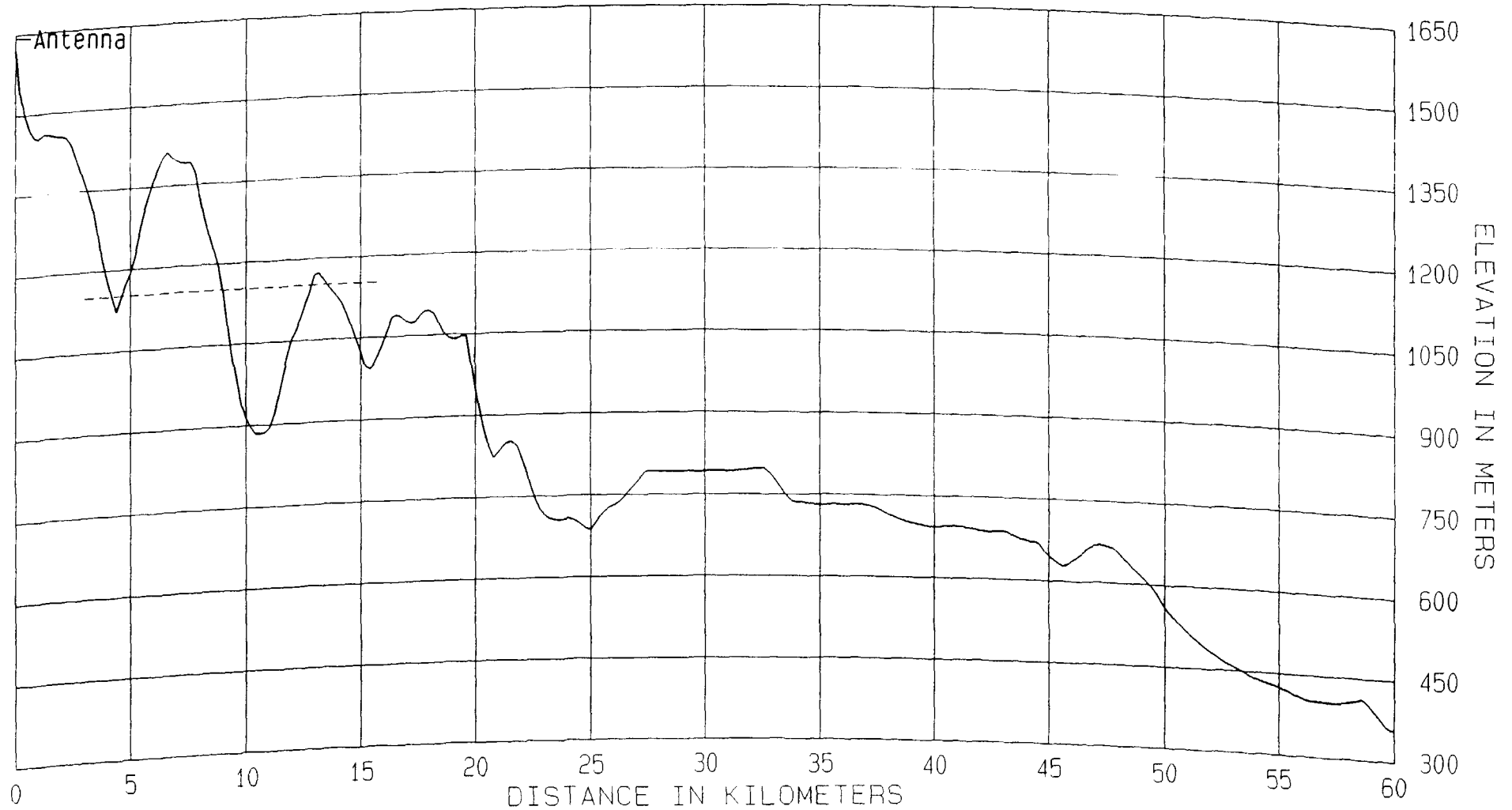
N 270.0° E Radial
KAY SADLER-GILL

EXHIBIT E-6H



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 1151.45 Meters AMSL
Antenna Radiation Center = 1644.10 Meters AMSL



N 315.0° E Radial

KAY SADLER-GILL

EXHIBIT E-6I

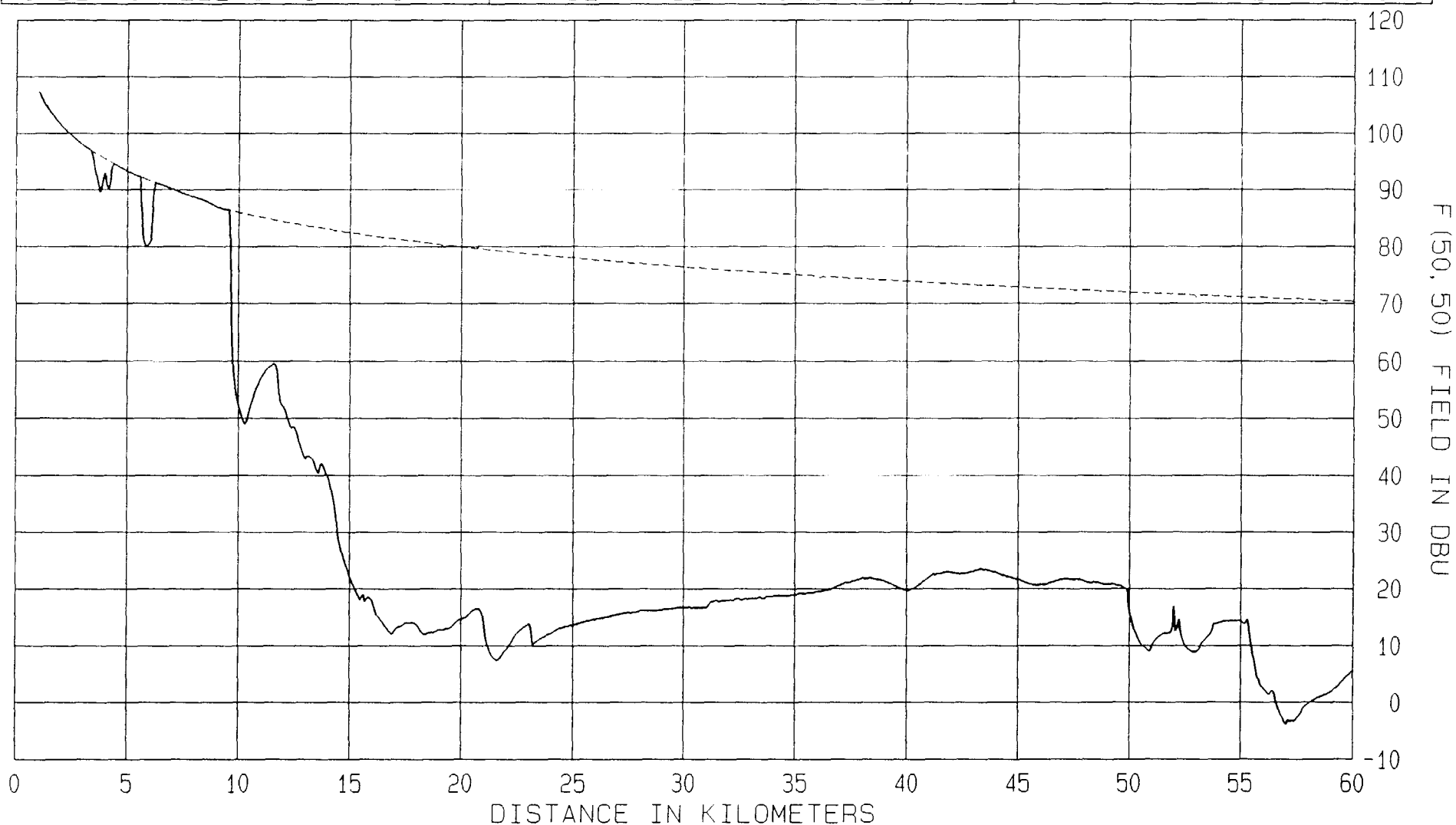


LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH

LONGLEY-RICE PROPAGATION MODEL

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL	
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM Eo = 237.9 mV/m at 1 Km	
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units		
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0	
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %	



N 45.0° E Radial

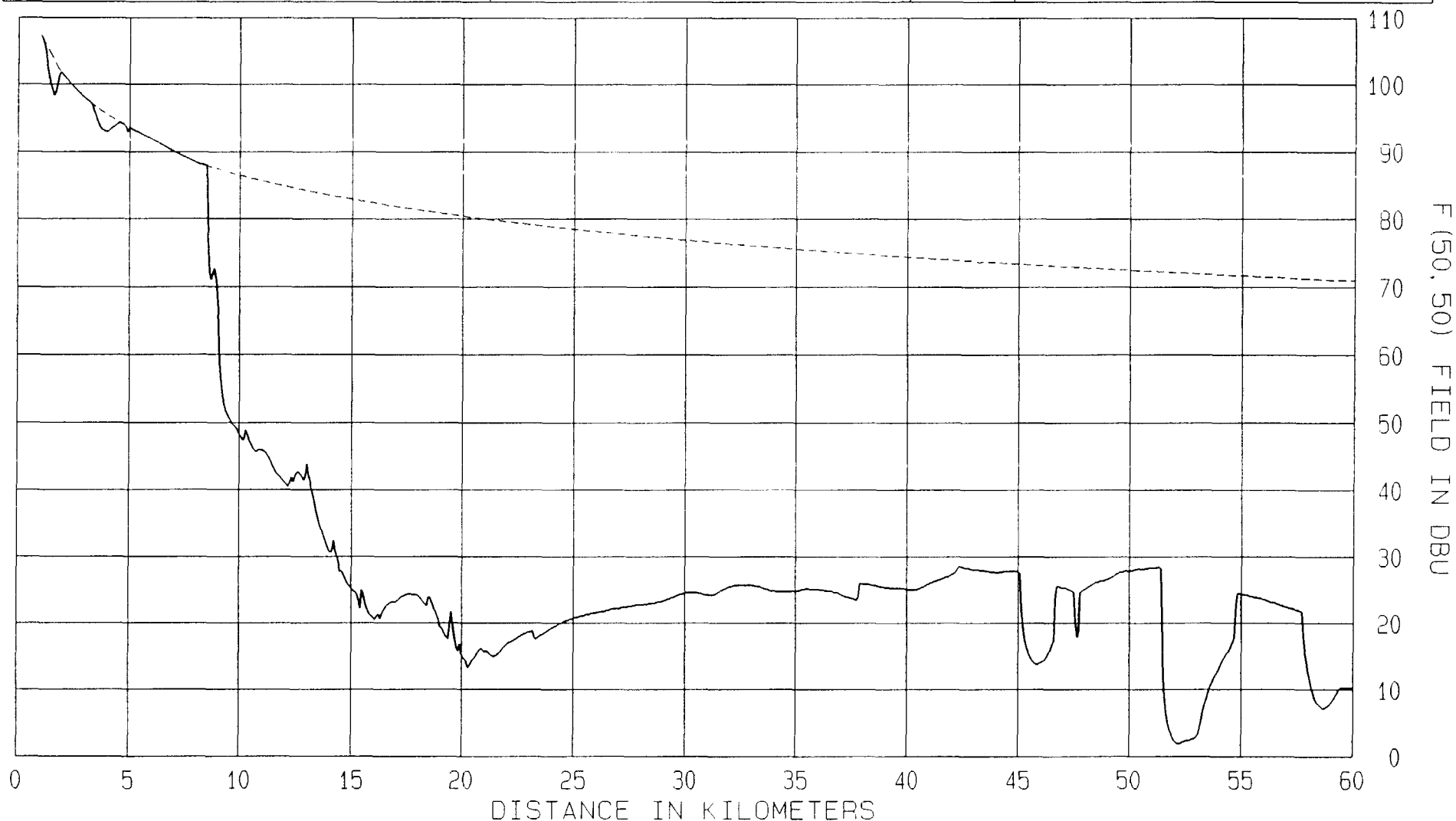
KAY SADLER-GILL

EXHIBIT E-7B



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH			LONGLEY-RICE PROPAGATION MODEL		
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM E ₀ = 237.9 mV/m at 1 Km			
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units				
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0			
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %			



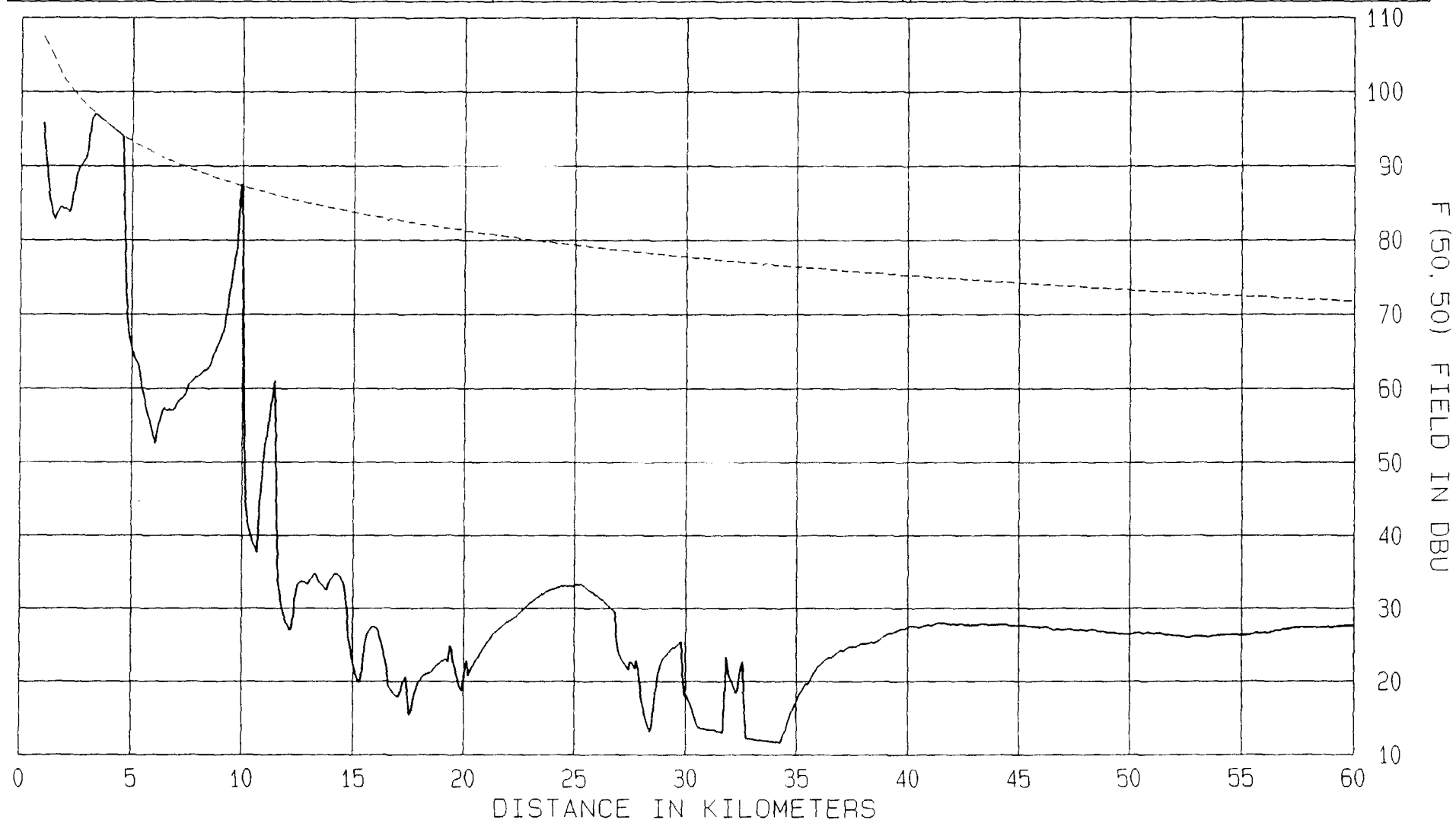
N 58.5° E Radial
KAY SADLIER-GILL

EXHIBIT E-7C



LAWRENCE L. MORTON ASSOCIATES
 Telecommunications Engineers
 Mesa Oaks, California

PREDICTED FIELD STRENGTH			LONGLEY-RICE PROPAGATION MODEL		
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM E ₀ = 237.9 mV/m at 1 Km			
SOIL CONDUCTIVITY = 5.0 mS/m		MEAN SURFACE REFRACTIVITY = 301.0 N-Units			
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0			
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %			



N 90.0° E Radial

KAY SADLIER-GILL

EXHIBIT E-7D

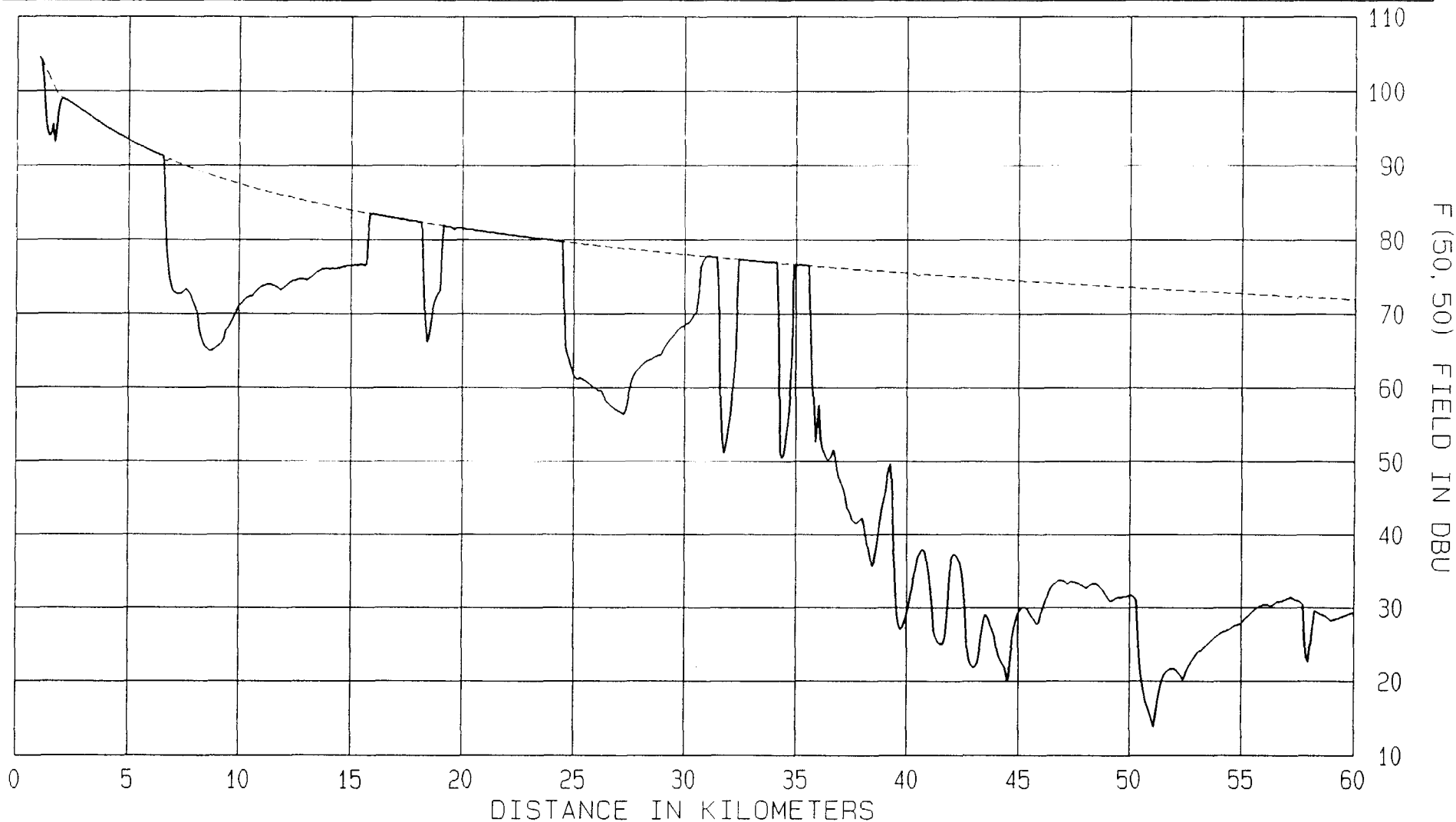


LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH

LONGLEY-RICE PROPAGATION MODEL

FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM E ₀ = 237.9 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %



N 135.0° E Radial

KAY SADLER-GILL

EXHIBIT E-7E

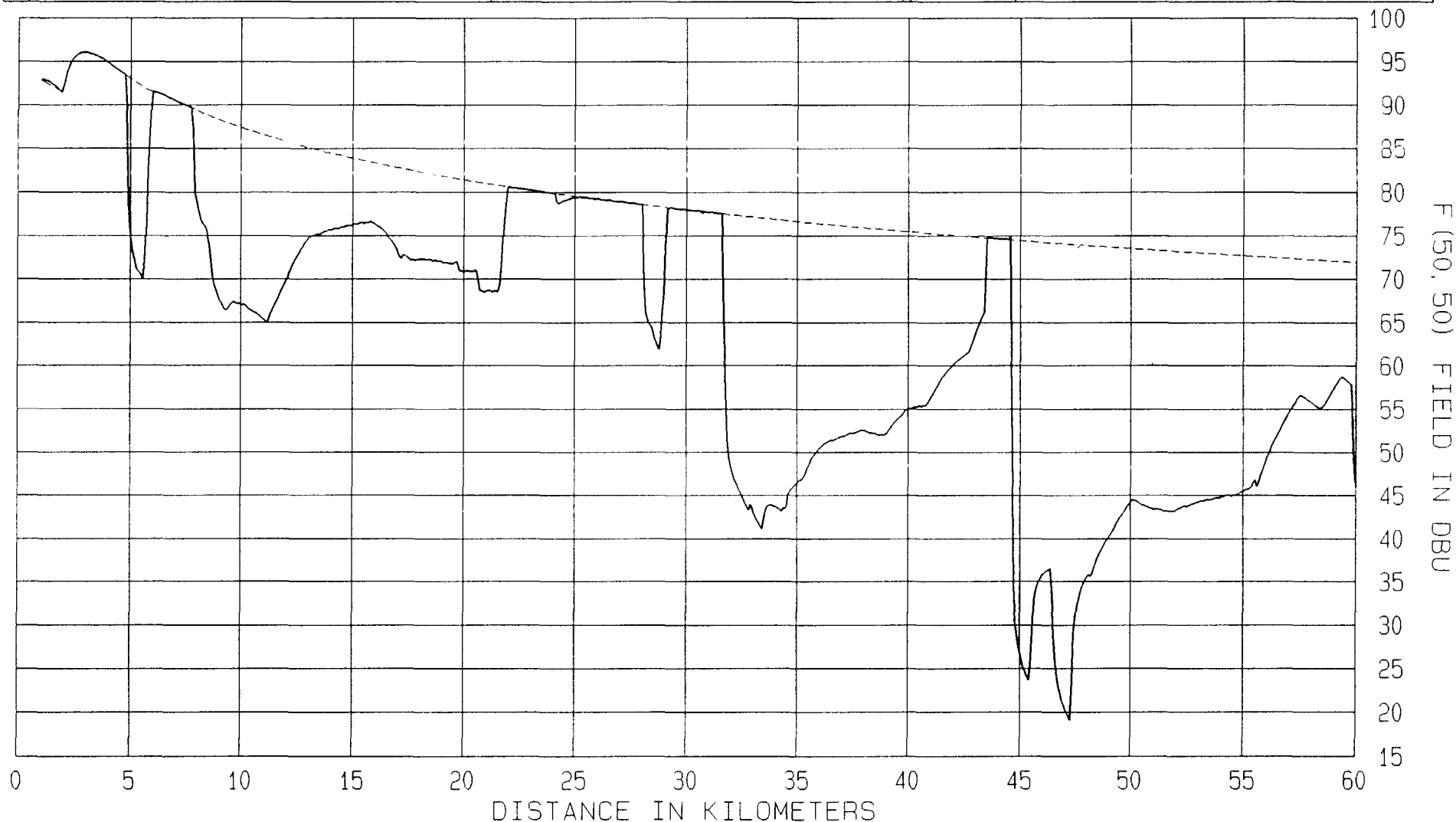


LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH

LONGLEY-RICE PROPAGATION MODEL

FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM Eo = 237.9 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %



N 180.0° E Radial

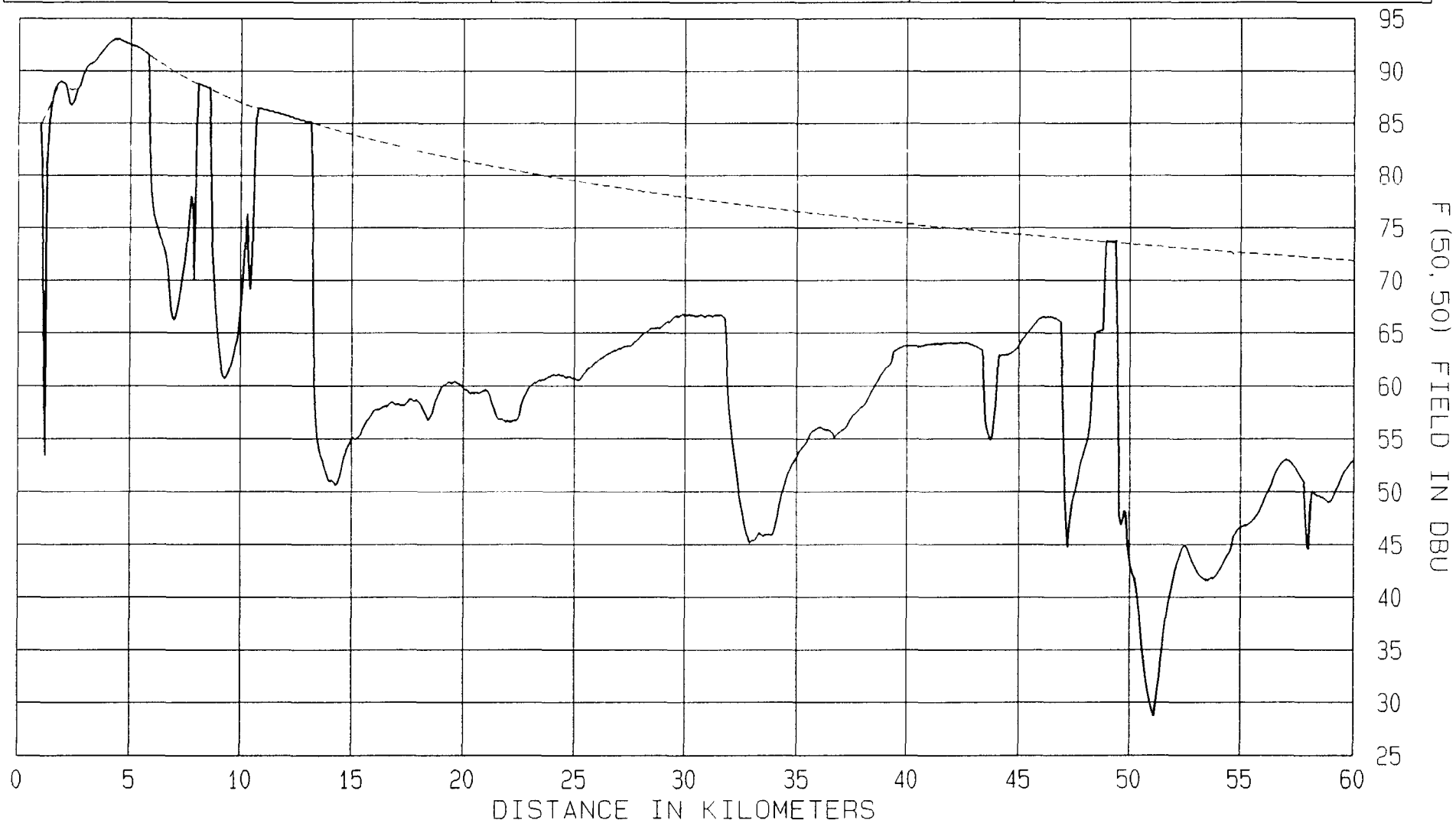
KAY SADLIER-GILL

EXHIBIT E-7F



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH			LONGLEY-RICE PROPAGATION MODEL		
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM E ₀ = 237.9 mV/m at 1 Km			
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units				
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0			
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %			



N 225.0° E Radial

KAY SADLIER-GILL

EXHIBIT E-7G



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH			LONGLEY-RICE PROPAGATION MODEL		
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM Eo = 237.9 mV/m at 1 Km			
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units				
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0			
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %			

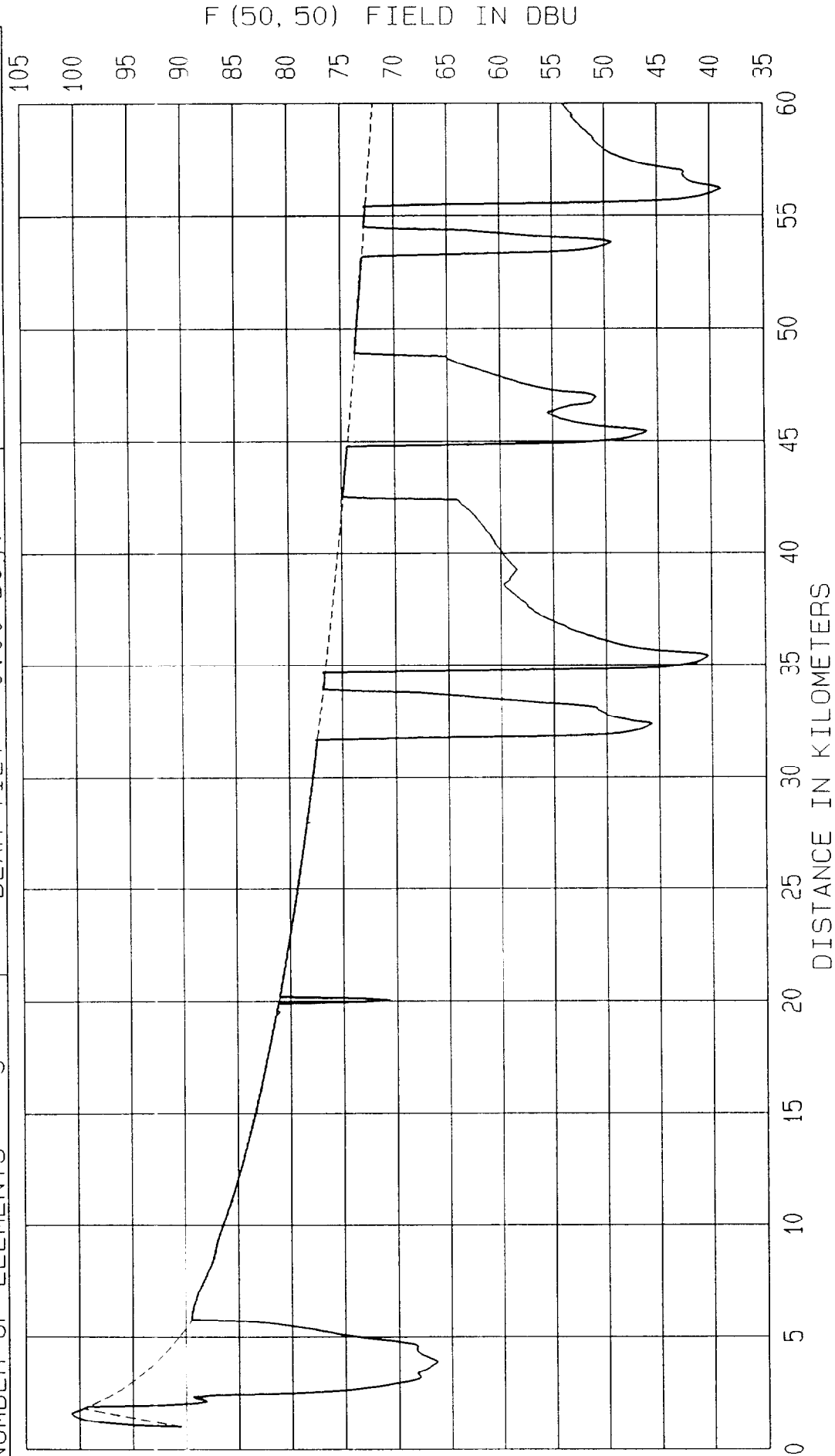


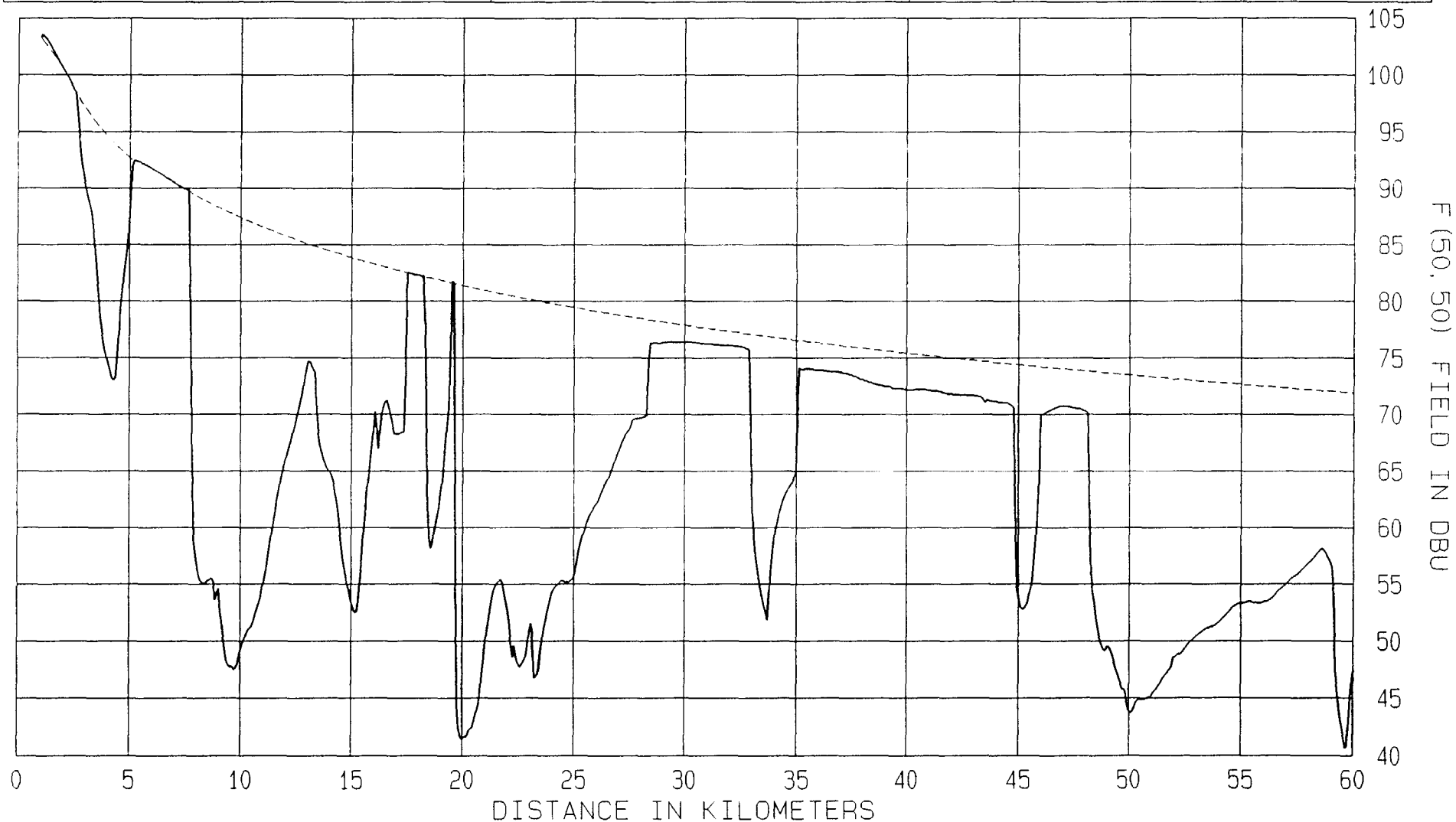
EXHIBIT E-7H

N 270.0° E Radial
KAY SADLIER-GILL



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH			LONGLEY-RICE PROPAGATION MODEL		
FREQUENCY = 101.3 MHz	POLARIZATION = H	MAXIMUM Eo = 237.9 mV/m at 1 Km			
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units				
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1644.1 m AMSL	DIELECTRIC CONS = 15.0			
NUMBER OF ELEMENTS = 3	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %			



N 315.0° E Radial

KAY SADLER-GILL

EXHIBIT E-7I



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

EXHIBIT E-8

ENVIRONMENTAL CONSIDERATIONS

I. DISCUSSION

The applicant, Kay Sadlier-Gill, has obtained permission to situate an FM broadcast antenna and supporting structure on a parcel of land within U.S. Forest Service property. The site is located at the west end of Double View Drive, 3.38 kilometers (2.10 miles) southwest of the center of Idyllwild, California, within Riverside County. The ground elevation of the site is 1621.5 meters (5320 feet) above mean sea level.

The tower and antenna will consist of a 25.9 meter (85 feet) guyed steel tower supporting an Electronics Research, Inc., model 200-3AE three-bay circularly-polarized nondirectional FM broadcast antenna. The total height of the tower and antenna will be 26.8 meters (88 feet) above ground, including top-mounted lighting beacon. The transmitting equipment will be housed in a small concrete block building to be constructed near the base of the tower.

II. NON-IONIZING RF RADIATION

In accordance with the requirements of the FCC Public Notice dated November 14, 1985, entitled Environmental Processing Rules For Broadcasting, the worst-case power density in mW/cm^2 has been calculated using equation four of Section II of the Office of Science & Technology Bulletin No. 65 entitled, Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation. Equation four has been reduced so the constant reflects both the factor 1.64 used to obtain ERP relative to EIRP and the factor 1000 for the number of milliwatts/watt. Further consideration includes the Environmental Protection Agency (EPA) recommendation that a more realistic approximation should include ground reflection by assuming a maximum 1.6-fold increase in field strength or an increase in power density of 1.6^2 (2.56).

Therefore,

$$S_{\text{mW}/\text{cm}^2} = \frac{0.10496 \cdot (\text{ERP}_h + \text{ERP}_v)}{\pi \cdot R^2}$$

$$S_{\text{mW}/\text{cm}^2} = \frac{0.10496 (2300)}{\pi \cdot 22.6^2}$$

$$S_{\text{mW}/\text{cm}^2} = 0.1504 \text{ mW}/\text{cm}^2 \quad (150.4 \text{ } \mu\text{W}/\text{cm}^2)$$

$$S_{\text{mW}/\text{cm}^2} = \text{Power Density in milliwatts/centimeter}^2$$

$$\text{ERP}_h = 1,150 \text{ watts max, horizontally-polarized ERP}$$

$$\text{ERP}_v = 1,150 \text{ watts max, vertically-polarized ERP}$$

$$R = 22.6 \text{ meters from antenna radiation center to tower base}$$

The American National Standards Institute (ANSI) has established a maximum power density exposure limit of 1.0 mW/cm^2 averaged over any six-minute period, for radio frequency radiation in the band from 30 to 300 Megahertz.

In the aforementioned report, reference is made to studies conducted by the EPA in which a mathematical model of antenna behavior was developed to predict the required distance from the antenna radiation center to the bottom of the antenna supporting structure in order that the ANSI limit will not be exceeded anywhere on the ground. By interpolation of tabulated values in appendix B, table 1 of the report, it was determined that a maximum "worst" case distance of 8.8 meters would be required assuming a single dipole element with an effective radiated power of 2.30 kilowatts (the sum of horizontally and vertically polarized power), and a "best" case distance of 3.3 meters using typically available three-bay broadcast antennas.

Exhibit E-11 graphically represents the predicted power density two meters above ground as a function of distance from the base of the proposed tower. As can be seen, the proposed facility will produce a worst-case power density which is well below the standard.

Furthermore, in order to protect the public and warn of possible radio frequency radiation danger, the applicant is proposing to liberally mark the area around the tower with warning signs which comply with the ANSI standard C95.2-1982 Radio Frequency Radiation Hazard Warning Symbol.

III. CONCLUSIONS

- No underground cable or waveguide is proposed.
- Human exposure to radio frequency radiation will not exceed the maximum level established by the American National Standards Institute (ANSI) based on predictions employing the vertical radiation characteristics of the proposed three-bay λ -spaced element antenna.
- The property has not been officially designated as wilderness area, nor to the applicant's knowledge, is it under consideration for such designation.
- The applicant will comply with environmental requirements of local, state and federal governmental agencies.
- The site is not located in a floodplain.
- The site is not located in an officially designated wildlife preserve nor to the applicant's knowledge, is it pending consideration for such designation.
- The property is not listed in the National Register of Historic Places nor to the applicant's knowledge, is it eligible for listing.

- The proposed facilities will not affect threatened or endangered species or designated critical habitats as determined by the Secretary of the Interior pursuant to the Endangered Species Act of 1973.
- The proposed facilities will not affect any known Indian religious sites.
- Construction of the proposed facilities will not involve significant changes to surface features.

Therefore, it is concluded that the operation proposed herein will not significantly affect the quality of the human environment and that an environmental assessment as described in Part 1, Subpart I of the Commission's Rules is not required. Furthermore, the proposed facility would not be classified as a Major Action as defined in §1.1305 and §1.1307 of the Commission's Rules and Regulations.

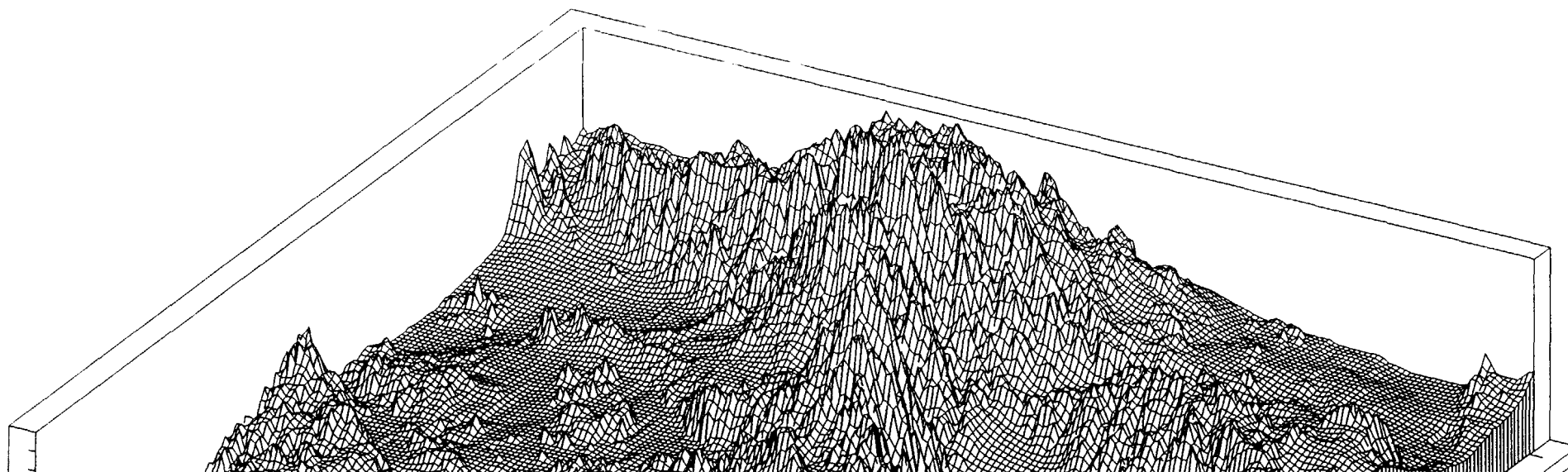
Lawrence L. Morton, P.E.
Consulting Telecommunications Engineer
June 3, 1991

KAY SADLIER-GILL

ELEV SCALE: 0.0- 8000.0 Feet
0.0- 2438.4 Meters
ELEV RANGE: -240.0-11300.0 Feet
-73.2- 3444.2 Meters
AVERAGE ELEV: 2660.3 Ft 810.9 Mtrs
LATITUDE RANGE: 33: 06: 30/ 34: 20: 30
LONGITUDE RANGE: 116: 00: 30/117: 29: 30
LON SPAN: 85.4 Mi 137.5 Km
LAT SPAN: 85.0 Mi 136.8 Km

AREA TOPOGRAPHY

68.92 Miles/Degree Latitude
57.59 Miles/Degree Longitude

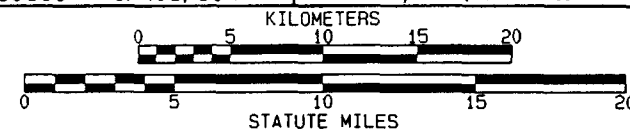


Lambert Azimuthal Equal-Area

10'00" Graticule Spacing

CENTER OF MAP:
N LAT 33°42'00.00"
W LON 116°54'00.00"
Scale 1:405,504

EXHIBIT E-10
PROPOSED 70 AND 60 DBU SERVICE CONTOURS
COMPUTED ALONG 360 BEARINGS
AND EXTENT OF TERRAIN SHIELDING
Kay Sadlier-Gill
Idyllwild, California



LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

